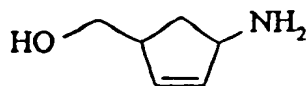


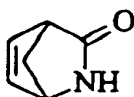
Patent Claims:

1. Process for the preparation of an aminoalcohol of the formula



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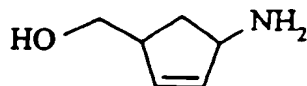
- 5 in the form of the racemate or one of its optically active isomers, comprising the reduction of 2-azabicyclo-[2.2.1]hept-5-en-3-one of the formula



II

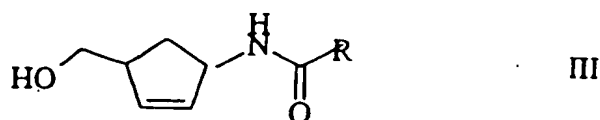
in the form of the racemate or one of its optically active isomers with a metal hydride.

2. Process according to Claim 1, characterized in that the metal hydride used is a metal borohydride.
- 10 3. Process according to Patent Claim 1 or 2, characterized in that the reduction is carried out at a temperature of from -20 to 200°C.
4. Process according to at least one of Patent
- 15 Claims 1 to 3, characterized in that the reduction is carried out in an aprotic or protic organic solvent or in a corresponding solvent mixture.
5. Process according to at least one of Patent Claims 1 to 4, characterized in that the reduction is
- 20 carried out in the presence of water or a lower aliphatic alcohol.
6. Process for the preparation of an aminoalcohol of the formula



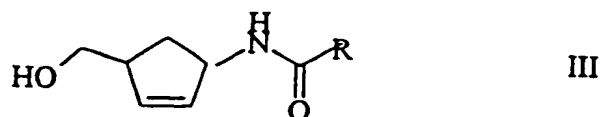
I

- 25 in the form of the racemate or one of its optically active isomers, comprising the hydrolysis of a cyclopentene derivative of the general formula



in the form of the racemate or one of its optically active isomers, in which R is C₁₋₄-alkyl, C₁₋₄-alkoxy, aryl or aryloxy, with an alkali metal hydroxide.

7. Process according to Patent Claim 6, characterized in that the cyclopentene derivative of the general formula

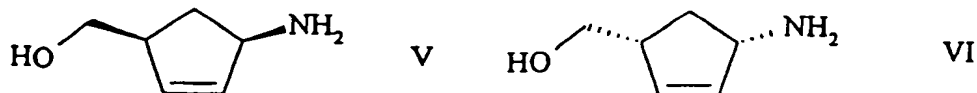


- in the form of the racemate or one of its optically active isomers, in which R is as defined above, is prepared by reducing an acyl-2-azabicyclo[2.2.1]hept-5-en-3-one of the formula

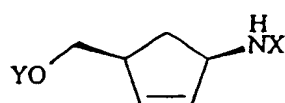


in the form of the racemate or one of its optically active isomers, in which R is as defined above, with a metal hydride in an anhydrous solvent.

8. Process for the preparation of (1S,4R)- or (1R,4S)-1-amino-4-(hydroxymethyl)-2-cyclopentene of the formulae



or salts thereof and/or of (1S,4R)- or (1R,4S)-1-amino-4-(hydroxymethyl)-2-cyclopentene derivatives of the general formulae

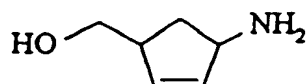


VII



VIII

or salts thereof, in which X and Y are identical or different and are an acyl group or H, with the exception of X = Y = H, comprising the racemate resolution of racemic aminoalcohol of the formula

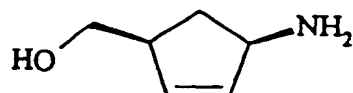


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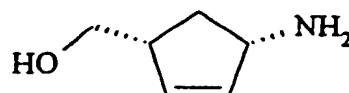
5 either by chemical means using an optically active tartaric acid or biotechnological means using a hydrolase in the presence of an acylating agent.

9. Process according to Patent Claim 8, characterized in that the biotechnological racemate resolution is
10 carried out using a lipase, and the chemical racemate resolution using D-(-)- or L-(+)-tartaric acid.

10. Process for the preparation of (1S,4R)- or (1R,4S)-1-amino-4-(hydroxymethyl)-2-cyclopentene of the formulae

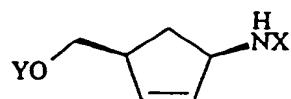


V

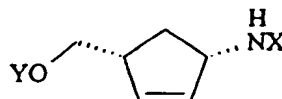


VI

15 or salts thereof, comprising the chemical hydrolysis of (1S,4R)- or (1R,4S)-1-amino-4-(hydroxymethyl)-2-cyclopentene derivatives of the general formulae



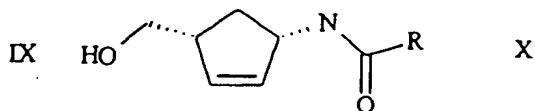
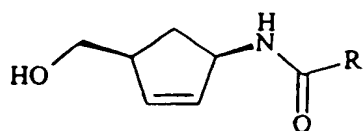
VII



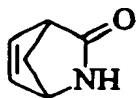
VIII

in which X and Y are as defined above.

11. Process for the preparation of an (1R,4S)- or
20 (1S,4R)-1-amino-4-(hydroxymethyl)-2-cyclopentene derivative of the general formulae

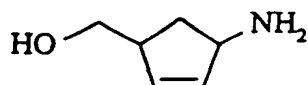


in which R is C₁₋₄-alkyl, C₁₋₄-alkoxy, aryl or aryloxy, characterized in that, in a first stage (±)-2-azabicyclo-[2.2.1]hept-5-en-3-one of the formula



II

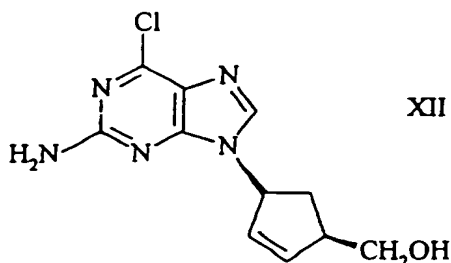
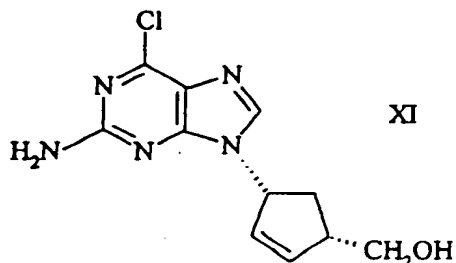
in the form of the racemate or one of its optically active isomers is reduced with a metal hydride into a racemic aminoalcohol of the formula



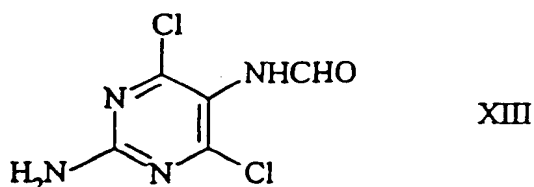
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which, in a second stage, is converted by biotechnological means using a hydrolase in the presence of an acylating agent, or by chemical means using an optically active tartaric acid, into (1S,4R)- or (1R,4S)-1-amino-4-(hydroxymethyl)-2-cyclopentene of the formula V or VI, which is acylated to give products of the formula IX or X.

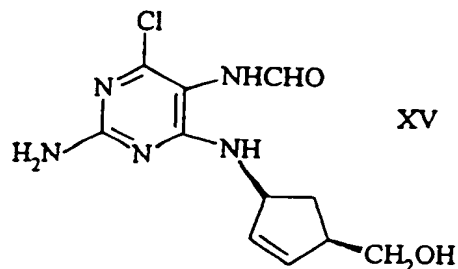
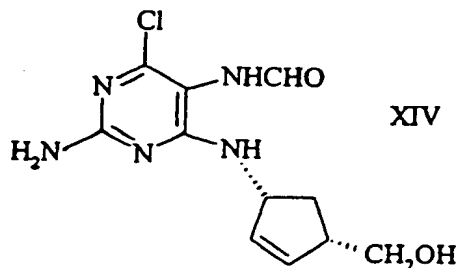
12. Process for the preparation of (1S,4R)- or (1R,4S)-4-(2-amino-6-chloro-9-H-purine-9-yl)-2-cyclopentenyl-1-methanol, or salts thereof, of the formulae



characterized in that (1R,4S)- or (1S,4R)-1-amino-4-(hydroxymethyl)-2-cyclopentene D- or L-hydrogentartrate is reacted with N-(2-amino-4,6-dichloropyrimidin-5-yl)formamide of the formula

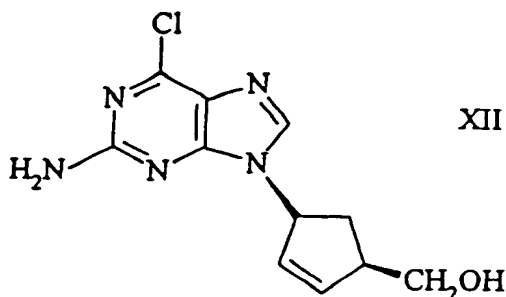


to give (1S,4R)-4-(1R,4S)-4-[(2-amino-6-chloro-5-formamido-4-pyrimidinyl)amino]-2-cyclopentenyl-1-methanol of the formulae

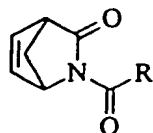
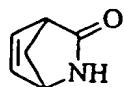


and the latter is then cyclized in a known manner to give compounds of formula XI or XII.

13. Process for the preparation of (1S,4R)-4-(2-amino-6-chloro-9-H-purine-9-yl)-2-cyclopentenyl-1-methanol, or salts thereof, of the formula

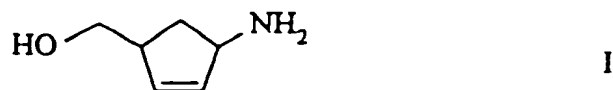


characterized in that (-)-2-azabicyclo[2.2.1]hept-5-en-3-one or (-)-acyl-2-azabicyclo[2.2.1]hept-5-en-3-one of the formulae

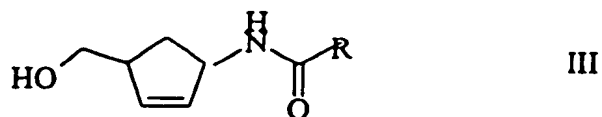


in which R is as defined above, is reduced with a metal

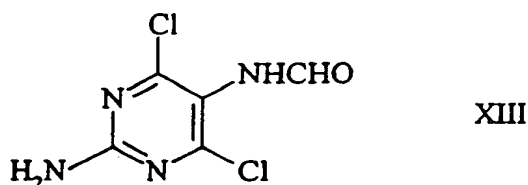
hydride to give an aminoalcohol of the formula



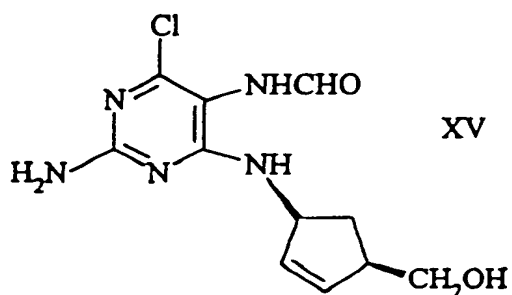
or to give a cyclopentene derivative of the general formula



in which R is as defined above, which is then converted
5 into the corresponding hydrohalide salts, then reacted
with N-(2-amino-4,6-dichloropyrimidin-5-yl)formamide of
the formula



to give (1S,4R)-4-[(2-amino-6-chloro-5-formamido-4-
pyrimidinyl)amino]-2-cyclopentenyl-1-methanol of the
10 formula



and cyclizing the latter in a known manner to give the
compounds of the formula XII.

14. (1R,4S)-1-Amino-4-(hydroxymethyl)-2-cyclopentene
D- or L-hydrogentartrate.
15. (1S,4R)-1-Amino-4-(hydroxymethyl)-2-cyclopentene
L- or D-hydrogentartrate.